

The Dystopian History of Sex Testing in Women's Sports

How the International Olympic Committee (IOC) failed women by undermining sex-based eligibility in sports.

By Linda Blade
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Standing on the podium at the 1984 NCAA Championships in Track and Field, accepting a medal in the Heptathlon for the University of Maryland Terrapins, was one of my life's proudest moments. This achievement was just one of many significant events in my athletic career. Over a span of ten years, I had the unique honor of becoming the national champion in two different countries on two continents: in Bolivia in 1977, where I was born, and in Canada in 1986, owing to my parents' citizenship.

I was also privileged to compete alongside some of the greatest female athletes, including the USA's Jackie Joyner-Kersey, who *still* holds the world record in the heptathlon nearly 40 years later. Looking back, if someone had told me then that I would spend my post-menopausal years trying to convince people that men should not be competing in women's sports, I would never have believed them. Yet, even after years of public advocacy, there are mornings when I wake up questioning my sanity and whether this is truly happening.

But, sure enough, it is real.

For at least the past decade, we have witnessed surreal instances where male athletes have brazenly competed in women's sports, claiming prizes in high school track and cycling, and even causing serious injuries to women in full-contact combat sports. The scandal involving swimmer Lia Thomas during the 2022 NCAA season brought this phenomenon into the mainstream public discourse, raising questions about how this happened and who is responsible.

I'll not mince words: The International Olympic Committee (IOC) is the most culpable organization for undermining sex-based eligibility in sports. By "sex-based eligibility," I refer to rules that govern participation in women's categories based on biological reality.

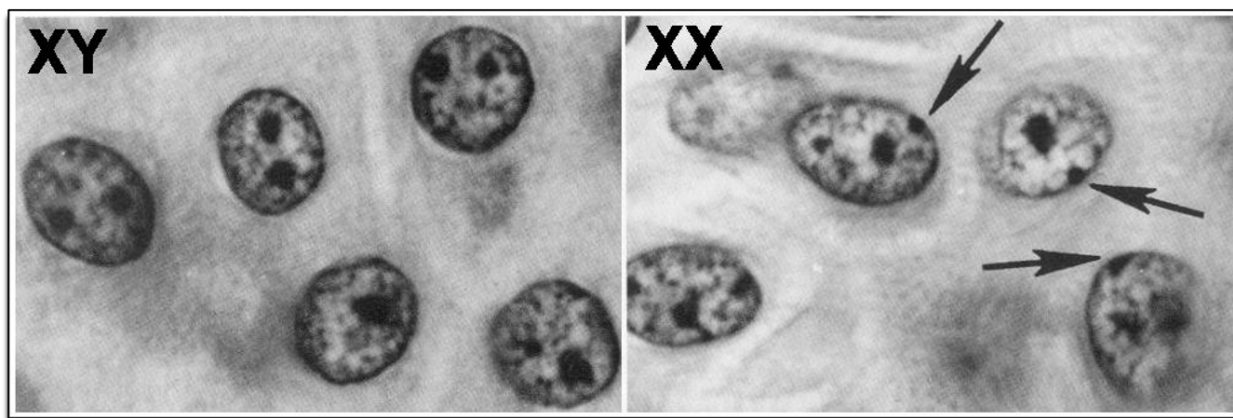
There are four key moments when the IOC failed women in this regard.

MOMENT 1: The Decision to Stop Sex Verification (1999)

The descent into chaos began in 1999 when the IOC discontinued the practice of verifying the biological sex of female Olympians. A quick history lesson is in order at this point.

From the moment the IOC reluctantly allowed women to compete in the Olympics back in the early 20th century, situations arose where male athletes were discovered competing in the women's category, highlighting the need for sex verification. Throughout the 1900s, various methods were used to ensure that competitors in women's Olympic sports were, indeed, female. Some of these methods, being invasive and humiliating, were quickly abandoned.

The most widely accepted method (from the viewpoint of female athletes) was the cheek swab test, used from 1968 to 1992. This simple and discreet test involved scraping buccal cells from the inside of the cheek to detect the presence of a "Barr body"—an inactive X chromosome of the XX pair that could be detected as a little black dot and signalled that person was, indeed, female. Once her Barr Body was detected, the athlete received a "Female Certificate," similar in size to a driver's license, which could be presented at future competitions to confirm her eligibility in women's events.



"The Barr body is indicated by the arrow. They are only present in cells with XX chromosomes. This was the evidence searched for in Barr body tests of samples from female athlete's inner cheeks." [SOURCE](#)

Truth be told, the Barr Body test was not totally infallible. Sometimes it would fail to correctly identify a female athlete. In scientific parlance, there would be a Type II error—a false negative—that would necessitate further (private) testing to determine whether the screen had failed or if the athlete was indeed male.

In 1996, seeking greater accuracy, the IOC adopted gene testing for the Atlanta Olympics. Blood samples from 3,387 female athletes were analyzed for the *SRY* gene located on the Y (male) chromosome, which in mammals (e.g. humans) triggers an embryo to develop into a male. Females, lacking a Y chromosome, do not have an *SRY* gene. This process was far more complex and costly than the cheek swab, involving significant time and resources. Indeed, it took 58 professionals donating 18-90 days of their time to do the testing, with laboratory costs exceeding \$150,000.

Despite identifying eight athletes with male genetics (1 in 423 female athletes), the IOC gave them permits to compete anyway. While it remains baffling that the IOC officials let these eight individuals with male genetics compete, the process showed that the genetic screen *did* work.

Nevertheless, in 1999 the IOC decided to abandon the cheek-swab and comprehensive sex-verification altogether. Why? According to a 2000 article in the journal *Genetics in Medicine*, the reasons cited were the high cost and complexity of the process, as well making female athletes feel uncomfortable. However, their own survey conducted during the Atlanta Olympics shows that this was untrue. A full 82 percent of female Olympians favored the continuation of sex testing, and 94 percent reported feeling no anxiety from the procedure.

The *actual* reasons for discontinuing sex verification were social and political pressures, with the IOC's Athletes Commission labeling it as “discriminatory” and causing “emotional and social injury.” This decision marked a significant shift in the IOC's approach to sex-based eligibility, setting off a chain of events that continues to impact women's sports today.

MOMENT 2: The Stockholm Consensus (2003)

In 2003, the International Olympic Committee (IOC) Medical Commission, claiming guidance from “the best information available at the time,” decided to allow male transsexuals to compete in the women's category. This decision was contingent upon several conditions to ensure fairness: a) the removal of their testes at least two years prior to competition; b) legal recognition as “female”; and c) hormone profiles aligned with those of natal females.

Dr. Emma Hilton, in her insightful 2019 speech at the Women's Place UK Event, asked a pertinent question: “What sort of information *was* available at the time – in 2003?”

She pointed out that the IOC likely had access to data from at least one study on the impact of medical transition on adult male performance at the time. This study, along with the IOC’s own Olympic record books, would have highlighted several critical facts: as a group, males are much stronger than females; males outperform females in sports; males who transition do not lose bone mass or height; and even three years into transition, male transsexuals maintain significantly larger muscle mass compared to females.

Therefore, Dr. Hilton argued, the claim that the IOC’s decision was based on “the best available evidence” seemed disingenuous.

Members of the IOC Medical Commission must have known that the surgical requirements could not eliminate the male competitive advantage. Nevertheless, they decided to allow transsexual males into women’s sports anyway. Their rationale appeared to hinge on the assumption that because the number of transsexuals was small, the impact on women’s sports would be negligible.

Dr. Hilton is right to be dismayed by advice given to the IOC by Dr. Louis Gooren, the author of the study referenced. Gooren’s statement that “depending on the levels of arbitrariness one wants to accept, it is justifiable that re-assigned males can compete with other women” was illogical, unscientific, and completely arbitrary. It was a decision driven by politics rather than science or common sense.

Looking back at what has transpired since, this momentous decision in 2003 signaled something that would become immensely disheartening for women in sport: The IOC would default to prioritizing the male perspective exclusively in decisions regarding eligibility for women’s Olympic sports. From that point on, the IOC has been noted for its reluctance to consider input from female-only sports advocates to guide decisions on fairness, safety, and inclusion in women’s sports.

As a Canadian, I am dismayed that the opinions of three Canadian males played key roles in shaping the ensuing Moments 3 and 4 of this descent into chaos.

MOMENT 3: The IOC Transgender Consensus (2015)

Astonishingly, in 2015 the IOC made it even easier for males to wedge themselves into female competition. Previously, a surgical transition was required, but the new rules eliminated this requirement. Instead, a male athlete simply had to “identify” as a woman and maintain testosterone levels at or below 10 nmol/L for one year to compete as a woman. Notably, this testosterone threshold is still many times higher than that of any female athlete.

Total Testosterone		
Age	Conventional Units	SI Units (Conventional Units × 0.0347)
Adult		
Male	300–1080 ng/dL	<u>10.41–37.48 nmol/L</u>
Female	10–60 ng/dL	<u>0.35–2.08 nmol/L</u>
Older adult		
Male	300–720 ng/dL	10.41–24.98
Female	5–32 ng/dL	0.17–1.11

Typical total testosterone level ranges for adult males and females ([SOURCE](#))

Why the change?

Several factors no doubt contributed—including the NCAA’s adoption of the one-year and 10 nmol/L standard as early as 2010—but this accounting of circumstances will focus on two Canadian men who played pivotal roles in the years leading up to the 2015 decision. One of them—Kristen Worley—lodged a complaint, while the other—Joanna Harper—followed up with a solution.

The Complaint:

A few years after the Stockholm Consensus was enacted, Canadian transsexual cyclist, Kristen Worley, began to compete in the women’s category. Experiencing castration levels of circulating testosterone (i.e. virtually none), Worley found it difficult to train and recover.

Quoting from Worley's book *Woman Enough*: "In July 2006, I became the first transitioned athlete in the world to request a TUE [Therapeutic Use Exemption] for testosterone as a necessity for basic health."

After that—from 2006-2014—Worley agitated incessantly for special status while competing as a woman. Based upon the narrative in the book, Worley's ability to contact influential figures—including then IOC president Jacques Rogge—was extraordinary. It indicates a level of access to IOC power that few athletes—or even world leaders!—have ever had.

The Solution:

During this period, another Canadian male, Joanna Harper, a medical physicist and long-distance runner who identifies as a woman, presented a different viewpoint. Harper argued that gonadal surgery was an unnecessary prerequisite and that simply reducing testosterone levels should suffice to equalize competition. In an era dominated by social media platforms like Facebook, Harper gathered self-reported running times from seven other male runners of masters age who identified as women. Harper attempted to use these data to demonstrate that hormonal mitigation aligned their running times with those of same-age female runners.

In 2014, Harper published this study and became an instant celebrity among IOC members advocating for transgender inclusion in sports. The study's severely flawed methodology and conclusions have been [extensively criticized](#), but it is enough to say that self-reported data from only eight male runners is inadequate and should not have been grounds for altering sports rules for female athletes globally.

But it was!!

And with this study, Harper not only gained recognition but also secured a position on the IOC medical commission, along with the considerable influence that comes with it. Harper remains one of their primary consultants on transgender inclusion to this day.

In 2015, everything appeared to come to a head: Worley filed legal action against the IOC and all cycling organizations in the spring of 2015. In the fall, the IOC, seemingly influenced by Harper's study, adopted the NCAA solution as a quick fix to make the problem go away.

It is unsurprising that in the years following the 2015 IOC Transgender Consensus, there was a flourishing of males self-identifying and dominating women's competition. A prominent example of this was a third Canadian, a cyclist named Rachel McKinnon, now known as Veronica Ivy. Ivy, who won the Women's World Masters Championship in both 2018 and 2019, became the go-to commentator/expert on transgender inclusion in sports. Ivy's mean-spirited dismissal of women's objections to male participation are legendary, such as inviting critics to "die in a grease fire."

The situation escalated at the 2021 Tokyo Olympics, where the participation of New Zealand's Laurel Hubbard in women's weightlifting drew global attention and outrage. Following this, the IOC, in its efforts to update its eligibility framework, invited none other than Ivy for consultation. This invitation was discovered by Katherine Deves of Save Women's Sports Australasia, who discovered this fact while tuning in to a webinar out of Arizona State University, recorded August 12, 2021. In this webinar, Ivy bragged about an upcoming visit to Lausanne, Switzerland, to be part of the IOC consultations. The transcript bears witness to a presentation full of obscenities about women's views and contempt for scientific inquiry.

Shortly thereafter, Deves wrote a letter to the IOC asking whether—*this time*—women would be also allowed to participate in the conversation on eligibility policy in women's sports. However, in a response dated September 7, 2021, the IOC declined this request outright, stating that the consultations were "closed" and that they had already heard "all sides" of the debate. So, once again, the IOC went out of its way to deliberately exclude female voices and, instead, sought the expertise of a belligerent male who has absolutely zero regard for women.

Ivy's response to the July 14, 2023, UCI ruling, which restricted women's elite competition to female-born cyclists, further illustrates the general tone of discourse we have come to expect from this person:

Fuck the UCI...Buckle up Bitches... I hope the UCI is ready for the smoke... It's time to race. Just try to stop me. This isn't makeup motherfuckers, it's WAR PAINT.

Thankfully, the UCI has now placed Veronica Ivy under suspension for issuing this public threat on Instagram.

MOMENT 4: The IOC Framework on Fairness, Inclusion and Non-Discrimination (2021)

In November 2021, the IOC announced its newly revised “inclusion” [policy](#). This neither surgery nor testosterone reduction would be required. Instead, the onus would be on female athletes to “prove” that a trans-identified male athlete in their event possesses a “disproportionate competitive advantage.” This policy change means that decisions regarding male self-identification into women's sports must be made on a sport-by-sport basis. Essentially, having created an enormous problem starting in 1999, the IOC completely relinquished gatekeeping of the female athlete category in 2021, kicking the can down the road for its international sports federation members to resolve.

As of 2023, global sports policies are all over the place. Some organizations, such as World Rugby, World Swimming, World Athletics, and World Cycling, have taken steps to protect the female athlete category. In contrast, others have adjusted their regulations to focus on the level of testosterone and the duration of time required for a male to self-identify for women's competition.

Meanwhile, the scientific research on this topic has expanded to 18 studies. All of these studies, including one conducted by Joanna Harper, consistently demonstrate that no amount of testosterone reduction can sufficiently mitigate the natural advantages that a male body has over a female body in sports.

The evolving landscape of sports inclusion and fairness prompts a critical question: what steps should we take next? This issue began in 1996 when the IOC ignored the clearly expressed gatekeeping preferences of female athletes—which, by the way, was the last time they ever asked. In 2003, the IOC chose to ignore existing evidence, relying instead on arbitrary conjecture to allow male transsexuals to compete. By 2015, the influence of certain males with special identities led the IOC to further relax its requirements. Most notably, in 2021, an embarrassed IOC reverted to a male leader who used profanity-laced rhetoric to further marginalize the female voice.

Throughout this journey, the human rights of female athletes have been treated as an inconvenience.

How do we address this ongoing issue? I believe the solution requires a two-pronged approach. Firstly, we must strive to elect ethical leaders to sports governing boards, leaders who are committed to developing policies and rules necessary to safeguard the female category in sports. Secondly, it's crucial to re-establish sex-based eligibility across all Olympic sports via an enhanced cheek swab screening and verification protocol.

Many female athletes harbor the dream that the IOC's frustrating 20-year experiment will soon come to an end. They aspire for a future where sports policymakers genuinely listen to female athletes, prioritizing their needs over the political aspirations of men. They hope that, once again, sports leaders will be honest with scientific data and fulfill their duty as guardians of fair sport.